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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,710	05/24/2004	Nien-Hui Hsu	OTMP0079USA	3709

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NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER

BLACKMAN, ROCHELLE ANN J

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,710

Applicant(s)

HSU ET AL.

Examiner

Rochelle Blackman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informalities: on line 5 of claim, "a" between "and" and "inlet" should be - -an- -, and there is insufficient antecedent basis for the limitation " the outlet" in line 6 of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiraishi (U.S. Patent No. 6,334,686).

Regarding claim 1, Shiraishi discloses an intake structure (see FIGS. 11-14), installed in a projection apparatus (see 1o FIGS. 2-4 and 8) which has at least one heating element (see elements in FIG. 5), comprising: at least one intake port (see 110 of FIG. 8) disposed on said projection apparatus; at least one air duct (see 714 and 715 of FIGS. 11, 13, and 14), and a inlet of said air duct is connected to said intake port (the "inlet" of "air duct" 714, 715 is connected to "intake port" 110 by way of elements 130 and 140 in FIGS. 8 and 11-14) and the outlet is disposed near said heating elements

(for example, see location of element 718 of "air duct" 714, 715 relative to elements 203 and 303 and/or see location of 721 and 722 of "air duct" 714, 715 relative element 414 in FIG. 11); an exhaust fan (see 150 of FIG. 8) disposed near said heating elements for outside air stream flowing through said heating elements.

Regarding claim 2, Shiraishi discloses wherein said air duct has a bent air path (see shape of "air duct" 714, 715 in FIGS. 11-14).

Regarding claims 3 and 5, Shiraishi discloses wherein the outlet of said air duct is connected to at least one splitting duct (see "air duct" 714, and 715 in FIGS. 11-14).

Regarding claim 4, Shiraishi discloses wherein said air duct has a straight air path (see shape of "air duct" 714, 715 in FIGS. 11-14).

Regarding claim 6, Shiraishi discloses wherein the outlet of said air duct is near said heating elements (for example, see location of "air duct" 714, 715 relative to "heating elements" 101, 203, 301, 401, 414 in FIGS. 11-14).

Regarding claim 7, Shiraishi discloses wherein said exhaust fan is disposed near said heating elements and said air duct (for example, see location of "exhaust fan" 150 relative to "heating elements" 100, 101, 203, 301, 401, 414 in FIGS. 7-14) for guiding outside air stream flowing through said heating elements.

Regarding claim 8, Shiraishi discloses wherein the area of said inlet of said air duct to be set depends on the area of said intake port (see inlet of "air duct" 714, 715 relative to "intake port" 110).

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Regarding claim 9, Shiraishi discloses wherein the quantity of said air duct to be set depends on the quantity of said heating element (see quantity of "air duct" 714, 715 relative to quantity of "heating elements" 101, 203, 301, 401, 414 in FIGS. 11-14).

Regarding claim 12, Shiraishi discloses wherein said heating elements is relay lens (see 402 and 403 of FIG. 5).

Regarding claim 13, Shiraishi discloses wherein said heating elements is a condenser (see 404-406 of FIG. 5).

Regarding claim 14, Shiraishi discloses wherein said heating elements is an electronic component (see driving circuits for "heating elements" 413-415 in FIGS. 5, 11-15 and see col. 9, lines 1-5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (U.S. Patent No. 6,334,686) in view of Bok (U.S. Patent Application Publication No. 2002/0180938).

Shiraishi discloses the claimed invention including "heating elements" that are an integration lens (202 and 203 of FIGS. 5 and 11-14) used to integrate light and dichroic mirrors (408 and 409 of FIG. 5) used to split light into different colors. However, Shiraishi does not appear to disclose heating elements that are an "integration rod" and a "color wheel".

Bok teaches providing heating elements that are an integration rod (330, 430, 530 of FIGS. 3-5) used to integrate light and a color wheel (see 320, 420, 520 of FIGS. 3-5) used to split light into different colors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Shiraishi reference with a integration rod and color wheel, since an integration rod and integrating lens and/or a color wheel and dichroic mirrors are equivalent structures used in the art and the selection of any of these known equivalents to integrate light and/or split light into different colors would be within the level of ordinary skill in the art.

2. Claims 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (U.S. Patent No. 6,334,686).

Shiraishi discloses the claimed invention except for wherein the distance between said heating elements and the outlet of said air duct is 1 to 10 mm. It would have been obvious to one ordinary skill in the art at the time the invention was made to provide a distance of 1 to 10 mm between the heating elements and the outlet of the duct, for the purpose of effectively cooling the heating elements, thus obtaining acceptable temperatures of the heating elements and preventing explosions within the projection apparatus, since it has been held that where general conditions of a claim are

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disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fuse et al. (U.S. Patent No. 6,280,038), optical equipment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RB


JUDY NGUYEN
SUPERVISORY PATENT EXAMINER